the end of the winter of 1858. The mercury sank to 4° below zero, Fahrenheit, and continued there for several weeks. It was very remarkable to see how the typhus was for a time arrested by the severe cold, but re-excited when the temperature grew milder. This fresh outbreak continued until the end of May, at which period it ceased or abated, to reappear in autumn."

16. *Disinfecting Treatment of Typhus and Typhoid Fever.*—Dr. JOHN HJALTELIN gives the following as the indications for his disinfecting treatment of typhus and typhoid fever, and which he employed with advantage in the terrible epidemic which prevailed in Iceland from 1857 to 1860. These are:—

"1st. To prevent overcrowding in the farm-huts and cabins as far as possible, where this in any way could be done.

"2d. To have the windows thrown open as often as the season would allow it, and make holes for ventilation where this could be most effectually done for purifying the air.

"3d. To destroy every offensive odour about the sick, and even the smell of the sickness itself.

"4th. To introduce cleanliness in every respect.

"5th. To clean the bowels of the patients as soon as possible in an effective and perfect manner.

"6th. To destroy instantly the odour of evacuations from the patients.

"7th. To use internally disinfecting medicines in a bold and consequent manner.

"8th. To support the strength of the patients by easily digestible but nourishing foods.

"The first indication could very seldom be fulfilled, but it was done whenever possible. The second indication was for the most part tolerably executed, especially when the people got afraid of the contagion, and therefore dared not shut their windows, but followed for the most my advice in opening them.

"The third indication was, after the lapse of some time, when the people had seen the good effect of it, boldly executed; and the remedies applied to this purpose were the aforesaid disinfecting compounds, viz., chlorine-gas, Sir William Burnett's chloride of zinc solution, iodoform, and charcoal.

"The fourth indication met with many obstacles, and could seldom, on account of bad habits or poverty, be executed as it ought to have been, or would have been, if cleanliness were a more common virtue in this country.

"The fifth indication was fulfilled by administering a full dose of calomel, sulphate of magnesia, or sulphate of soda, all in large and repeated doses, according to age and other circumstances. The calomel was generally given in a dose of ten to twenty grains every day, or every second day, until the fetid odour of the dejections was gone. As the effect of this treatment, I may mention the lessened tenderness in the right iliac region and in the whole abdomen, lowering of the pulse, diminished headache, and more clear consciousness of the mind, when from the beginning there had been stupor or coma. In some cases sulphate of magnesia was given in a dose of a half or one ounce, until I was pretty sure of the bowels being well cleaned, and all bad odour of the evacuations had disappeared.

"In order to execute the sixth indication, sulphate of iron was generally put into the water-closets before they were used; but, in some cases, chloride of lime was used for the same purpose. By these disinfecting compounds no odour of the dejections could be felt, although the patients had very large and noxious-smelling evacuations. I think that every one who knows the small and dirty Icelandic huts will agree with me that this is a quite indispensable proceeding to purify the air, where many patients are crowded together in small rooms. This method seldom failed to produce a happy effect upon the patients. The seventh indication was executed in several manners. If the patients were supposed to have strong and healthy respiratory systems, they were made to inhale iodoform or chlorine gas mixed with the air. The former remedy was most frequently used, and the good effect of it (according to my experience) is undeniable. It was in some instances given internally, dissolved in ether, and seemed often to produce a well-marked relief, and especially it was observed to check coma and delirium. The chloride of lime was never used internally, but the patients were often made to inhale the vapour of a concentrated solution of chloride of lime, which was managed in this manner: Linen strips were dipped in the solution, and hung up to dry by the bedside, which caused a continuous chlorine gas exhalation in the room. By patients with weak and irritable lungs the iodoform was always preferred to the chlorine gas.

"The eighth indication, namely, to support the strength of the patients, was fulfilled by nourishing food and decoction of bark; and this was sometimes recurred to in the third stage of the fever, in order to prevent death from exhaustion. It seems to me that many physicians are too much afraid of using nourishing diet in typhus fever, forgetting the great loss of nitrogenous compounds which this sickness, by the large excretion of urea, produces. I have seen many typhus patients in this country, who, as soon as they were able, took very nourishing food, which would never be allowed in the hospitals of Europe, recover speedily; and, comparing this fact with the languishing and protracted recovery in the hospitals, I conclude that nourishing food in the latter stages of this fever is quite indispensable.

"As to the result of my treatment, I am obliged to make some remarks, and in so doing it is necessary to mention the ravages of the typhus fever in our country during the years 1859 and 1860. In the northern part of this island, and on the western shores, a good many patients fell victims to it; so that in some parishes the mortality was no less than 1 in 16, or even 1 in 14, of the whole population. In some parishes every tenth inhabitant died from the sickness; and in many places, where no medical aid could be obtained, the mortality of the whole population for the year 1860 was 1 in 15 or 16. At the same time the mortality for the town of Reykjavik was only 1 in 29, and for the adjacent parish 1 in 27. Being the whole time obliged to go from one hut to another, and, besides, to make many visits in the neighbouring country, it was impossible for me to calculate the number of my patients in a perfect and accurate manner. I only know this (as aforesaid), that during the years 1858–61 I have had a number of not less than 900 cases of typhus and typhoid fever under my treatment, and that out of this number I have lost no more than 30 patients from this disease. In a neighbouring parish the number of the patients was 95, and out of this number only two died. I am, therefore, inclined to believe that if my disinfecting treatment had been carried on under favourable circumstances, the result might most probably have been still more conspicuous.

"It is, I think, an acknowledged fact, that the eruptive and enteric typhus are dangerous fevers; and, although some physicians believe that the eruptive typhus is less dangerous than the enteric typhus, we have in this country, during the last epidemia, proofs of its malignity, which led to the enormous mortality of 1 in 6 of the inhabitants in some places. Almost the same fatal mortality as happened here, occurred during the last epidemia in the Westmanna Islands. The physician of that place fell at the outbreak of the epidemia a victim to the typhus, and out of 400 inhabitants 40 died afterwards. In some parishes in the east part of this island it is related that the mortality sometimes rose to 1 in 3 of the affected.

"Mortality of typhus is, as we know, very variable, according to the nature of the epidemic constitution and other circumstances. In Hooper's *Physician's Vademecum*, fifth edition, it will be seen, page 274, that the mortality of adynamic fevers in Edinburgh and Glasgow has very often been 1 in 10, and even 1 in 6 or 7, or as great as in some parishes of this island during the last epidemical typhus. From several articles in the *Lancet* I learn, moreover, that the mortality of typhus in the hospitals of London is very often found to be 1 in 10, or even 1 in 8; and, according to Dr. Trier, of Copenhagen, the mortality of typhus and typhoid fever in that city has generally been 1 in 8, or sometimes 1 in 6. In Germany and France it is well known that the mortality from malignant fevers in the hospitals is generally 1 in 9, and sometimes 1 in 7; but in Russia, namely, St. Petersburg and Moscow, it is still less favourable, being in some epidemics 1 in 5.

"It is generally accepted now-a-days, that physicians, before the determination on the adoption of a particular method of treatment, should always first inquire what would happen in this case if no remedies whatever were employed; or, in other words, if the patients were altogether left to nature, that is, to the efforts of their own constitution. Many renowned physicians will say, 'The living machine, unlike the works of human invention, has the power of repairing itself. It contains within itself its own engineer, who, for the most part, in by far the greater number of cases, requires no more than some very slight assistance of our hands,' etc. This is the fashionable talk of the most celebrated physicians in our time; but I have always thought that this principle is of as little use to medicine as it is unworthy of a science which now claims the name of an 'exact learning.' But fashion has a strange power, and thus this 'inactive treatment' is become a general rule amongst the physicians of Europe in our century. In the meantime, it seems to me that the modern medicine has by this principle involved itself in some contradictions, or why do we then cure scurvy with large doses of citric acid, inveterate syphilis with large doses of iodide of potassium, intermittent fever with bark, rheumatism by repeated doses of bicarbonate of potassa, lithic diathesis and oxaluria with large doses of carbonates and strong mineral acids? Why do we at all give remedies for poisons? And if we give remedies against mineral and vegetable poisons, why not also for organic poisons? I hope that very few physicians will now-a-days deny the origin of malignant fevers from organic poison; but, if this is accepted to be true, why should we then not try by all possible means to destroy these poisons? Pure air is, no doubt, the most common destroyer of organic matter, and it is, I think, on this account that the modern ventilation has done so much good to prevent and cure malignant fevers. We may, I hope, go still farther, and clean out the organic poison from the human body by a right use of the principles of modern chemistry; but, leaving the destruction and elimination of fever poisons from the body to nature's efforts alone, we may, I think, very often be mistaken and disappointed.

"Regarding the melancholy ravages of our epidemic typhus when it was allowed to run its own course, or whenever the patients were unaided by the medical interference, I can hardly doubt that my positive disinfecting treatment has been of some value, and I should indeed feel very happy if these few remarks could induce some of my dear colleagues to give it a fair trial."—*Ed. Med. Journ.*, Sept. 1862.

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17. *Treatment of Delirium Tremens.*—The No. of the *Edinburgh Med. Journ.* for November last, contains a very interesting paper by Professor LAYCOCK on the diagnosis, prognosis, and treatment of delirium tremens. In this paper Prof. L. advocates, as he did four years since (Oct. 1858) in the same journal, the expectant and rational method of treatment. His views with regard to the medical treatment are marked, we conceive, by good sense. "Since a case of delirium tremens tends," he says, "independently of active remedies, to a favourable termination in from four to fourteen days (the cases I have treated have averaged six days' duration), the great indication of medicinal treatment is to favour this tendency in *expectation* of early recovery. It is favoured by preventing as well as by helping. The natural impulse to interfere by the aid of narcotics and stimulants, or by mechanical means of restraint, has to be checked. This is best attained by adopting a plan of treatment which occupies and gives confidence to the attendants and friends, and at the same time calms the patient. The effects of medicinal agents or drugs used to this end cannot be satisfactorily determined in many cases, because we cannot say, when calm and sleep come on, how much is due to the drug, how much to the diet and regimen, and how much to nature; so that all experience upon this point is somewhat doubtful. It is certain, however, that drugs have and do exercise an influence over the intensity of the symptoms, although they may not either cause sleep or shorten the duration of the disease. Of these, opium and its salts, tartar emetic, digitalis, chloroform, purgatives, alcoholic and other stimulants, are examples.

"*Alcoholic Stimulants.*—These are available in all asthenic forms of delirium, however caused. They have been hitherto administered in the methystic form, chiefly on the theory that the sudden withholding of the habitual stimulant is